from being a descendant of the apes, he may be looked on as their ancestor."

No one who has patiently analysed the structural characters of man and of anthropoid apes, and noted the points in which they resemble each other and those in which they differ, can find a perfectly satisfactory genealogical tree to account for the distribution of the points of resemblance and points of difference. That difficulty must remain so long as we are ignorant of the manner in which heredity works in moulding anatomical features. But to one who has tried to solve these difficulties, Prof. Wood-Jones's hypothesis, while clearing away minor difficulties, substitutes much greater ones. We cannot, on his hypothesis, explain the very remarkable and unquestionable structural community which binds man and anthropoid apes together, unless we fall back, as Prof. Wood-Jones has done and as the late Prof. Hermann Klaatsch did, on "convergence phenomena." There can be no progress in anatomy, any more than in cultural anthropology, unless we presume, until the opposite is proved to be the case, that similarity of structure and identity of custom presuppose a common origin. A. K.

The Genera of Fishes from Linnaeus to Cuvier, 1758–1833, Seventy-Five Years with the Accepted Type of Each. By D. S. Jordan, assisted by B. W. Evermann. Pp. 161. (Leland Stanford Junior University Publications: University Series.) (California: Stanford University, 1917.)

THE aim of this list, which must have involved much labour, is "to give stability to nomenclature" by altering, for the sake of priority under new rules enacted by various committees the mission of which thus to revolutionise has never received general sanction, most of the names with which we are familiar and the change of which would defeat the very object for which the use of Latin names is intended. We are glad botanists have almost unanimously repudiated such suggestions, and we trust to the good sense of the zoologists of the future to treat in like manner these attempts at upsetting nomenclature, and thus adding to the difficulties not only of systematics, but, even more, of every other department of biology. The writer of this notice is determined to continue, as in the past, to respect old names which have been universally in use, even if they do not conform to the strict rule of priority, which should be applied only when no serious harm can result from the point of view of stability in nomenclature.

We are referred to a Committee of Zoological Nomenclature, including several Germans, in May, 1917 (*sic*), with an appeal for "the fullest criticism both as to matters of fact and of opinion before placing the contents of this paper before the International Commission." We doubt if a commission so composed will ever meet again, and such seems to be also the impression of its president, as conveyed in the address delivered by him to the Zoological Society of France in January, 1915. G. A. BOULENGER.

LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of* NATURE. *No notice is taken of anonymous communications.*]

The Promotion of a Closer Union between England and Italy.

THE utility, even the necessity, of a more intimate union between the democracies of the Entente will make itself felt still more urgently after the war than it does now. After the war, in fact, and even if its issues be as we wish and firmly trust they will be, there certainly will still be the danger that the hegemonic aspirations of Germany will again arise, and that she will renew her attempts at economic, technical, and scientific penetration for political purposes. On the other hand, the international division of labour, and the necessity arising from it that each country should avail itself of the complementary production and work of the other countries, will certainly continue after the war; so that, if this division of labour among the countries of the Entente is not organised, and if there does not come to pass a closer intellectual and moral union between Britain, France, and Italy, the last-named country sooner or later cannot but have recourse again, and in large measure, to Germany for all those productions and services needed to complete her own.

It is not enough, however, that Britain will produce henceforth all those manufactures which we formerly imported from Germany; nor will it be enough that she can furnish them at prices so low as to compete with Germany; nor yet will it be enough that the British manufacturers will understand the necessity of furnishing all those large supplies of goods on credit and affording all those facilities in the way of long credit with which Germany coaxed our markets. Certainly all these are measures that Britain must adopt immediately if she wishes to regain this market. If formerly, when she was the only producer of given machines or goods, she might well expect the customers spontaneously to come to her without needing to give herself too much trouble to secure them, now that she has a competitor so dangerous as Germany, Britain, too, must take due pains to acquire and preserve in our country an ever-widening circle of customers.

But, I repeat, even all these facilities will not suffice. For the economic penetration of one country by another must always be accompanied, and often even preceded, as Germany well understood, by a whole process of intellectual and moral penetration.

Let not the fact, for instance, seem insignificant that while almost no British firm is accustomed to write in Italian to Italian customers, the Germans, on the contrary, did so in always increasing measure. It is but too well known how they studied our needs and tastes in order to satisfy them. The insinuating work, often undignified, but persistent and able, of their commercial travellers has been remarked by all as one of the most important means used for the conquest that they had made in a few years of the world's markets in general, and of ours in particular.

As regards the intellectual side, properly speaking, no one can fail to recognise what valuable arms for Germany's penetration here among us in Italy she had in her books and periodicals, especially scientific and technical. These books and periodicals were in course of time considered so necessary to the students both of technical high schools and universities that where, in our secondary schools, there was the option between English and German, a proportion always greater from year to year chose the latter. Our future technical and scientific men thus completed their instruction with German books and periodicals; and when their studies were finished, and they entered the great arena of industrial and scientific life, the influence of this intellectual training, to a great extent of the German stamp, had its after-effects on all the scientific, technical, and economic relations of our country with Germany.

It is, therefore, necessary that Britain, throwing aside not only in politics, but also in all the varied forms of international relations, its proud device of "splendid isolation," should understand the full necessity of this reciprocal moral and intellectual penetration of our two countries, and convince herself that no efforts to produce and intensify it can ever be great enough.

I should be glad, for example, to see that in the British commercial schools Italian commercial correspondence should be taught; that the principal industrial and commercial firms in Britain should meanwhile, as soon as the war is over, call for Italian young men to conduct their correspondence with Italy in Italian; and that an ever-increasing number of British young men should be sent every year to Italy —whether to our commercial schools and commercial universities or to our largest industrial, commercial, and banking houses—to exercise themselves in Italian and to know better the economic life of our country. Both in Britain and in Italy special sections of the respective commercial schools and commercial universities should be devoted to the preparation of commercial travellers and agents, perhaps also commercial consular officials, through the careful study of the commercial and industrial needs of each country.

Then it would be of fundamental importance, as we have just now said, to see to the reciprocal penetration of a technical and intellectual sort. The exchange of teachers and students in the universities and other superior schools, which will no doubt have been already thought of, will aid this not a little. Very useful also in this regard will be the establishment, not only in Milan and London, but in all the principal cities of Britain and Italy, of Italo-British institutes. And no less is it to be recommended that British books should be more largely bought by the public Italian libraries, and Italian books by British libraries; and that in every important city in Britain and Italy should be formed associations of the studious, the technical men, the manufacturers, for the purpose of founding reading-rooms, in which would be found all the important foreign reviews—scientific, technical, economic, legal, political, historical, literary, artistic, and so on.

But all this would certainly be not yet sufficient. If Britain wishes to regain in other countries for its book production both technical and scientific, the place from which Germany was gradually ousting her, her authors must no longer assume a point of view too strictly or exclusively British, but must "internationalise" themselves more, as precisely the Germans did. It is necessary, in other words, that the British books and periodicals, both technical and scientific, should look more frequently than they do now to see what is being done and thought outside their own country; that due account should be taken of this in order to get out of that isolation from the rest of the world which is such a hindrance to their diffusion in the countries that are not Anglo-Saxon; that they should take more care to divest themselves of their exotic appearance, which to us Latins is more marked in them than in the book production of any other country, derived from archaic systems and methods, such as their systems of measure and the like which have hitherto disdained to give place to systems and methods now become international.

At the same time, British publishers might be asked to give more attention, and on broader lines, to advertising their books in the countries not Anglo-Saxon. Let me be allowed to quote in this connection a typical fact, drawn from my personal experience. In the first years of existence of the international review *Scientia*, of which I have the honour to be editor, no one would believe the difficulties we met in obtaining gratis from British publishers their books for which we asked in order to review them; while the German publishers hastened to send us works costing as much as forty, sixty, or more marks, and after our first request continued sending books of their own accord, many British publishers answered us, even with regard to works costing only 5*s*. or 10*s*., that the greatest concession they could make us was to let us have them at half-price. The result was, of course, that in the early days of *Scientia* the German works reviewed in it were three or four times as many as the British, and certainly through no fault of ours.

Then courageous publishers, or publishing trusts formed for the purpose, ought to put out in Britain English translations of Italian technical and scientific works, and in Italy Italian translations of works in English. The British public must, in fact, cease to appreciate only what is British, and become convinced that in other countries there may be something good which deserves to be known. In this connection the fact is significant that before the war our review above-named had in Germany a circulation four or five times larger than it had in Britain. It was a sign that the German public recognised more than the British public the utility and interest there was in following attentively the international movement of ideas, and appreciated more the scientific production of other countries.

But a measure which we consider would be of more avail than any other to effectuate this closer moral and intellectual union between Britain and Italy, and in general between all the peoples of the Entente, is that already advocated by the writer in Italian, French, and British periodicals, and taken into most favourable consideration by all the scientific and political Press of the Allied countries: the establishment, for each of the principal branches of science, of periodicals, international as regard collaboration, but "Ententist" as to editing and publishing—that is to say, scientific periodicals which might fulfil for each branch of science that function which *Scientia* exercises for scientific synthesis in general, embracing, as it does, all the sciences. Here I add that the same thing could and should be done as to technical periodicals relating to each of the principal branches of industry. A periodical, for example, devoted to electrical engineering, or to certain branches of it, jointly edited by the most eminent British, French, and Italian electricians, published by three of the principal publishing firms of the three countries, which would publish articles in the language of the respective authors, but accompanying the text, where this is English or Italian, with the French translation: think how efficacious a work could be done in the way of maintaining in continual mutual contact our engineers and our manufacturers, of making known and introducing in each country the products of the others, of organising in the three countries all the production in that particular branch of industry, of settling and forming the due arrangements for facing German competition. Suppose that such "Ententist" periodicals—perhaps with the financial co-operation of the larger industrial firms in each line, for whom the sum required for the purpose would be but a trifle—sprang up in each of the principal branches of industry and commerce. Who does not see how effective and close a union between our countries of the Entente would in the end be wrought and consolidated by these organs of high industrial control or co-ordination?

In some of the principal industries, therefore, let this first step be taken on the long road still to be travelled. To travel it to the end, once this first step is taken, we shall then be drawn by the shining goal itself that has to be reached: that of the truly intimate union of our two countries, and the federation of the peoples of the Entente on which depend the liberty of the peoples and the peaceful and just re-ordering of the nations.

EUGENIO RIGNANO,
Editor of the International Review *Scientia*.

The Eötvös Revolving Balance.

IN the issue of NATURE for March 21 Prof. Boys directed attention to a very interesting experiment performed by Baron Eötvös, in which the oscillations of a revolving balance were shown to be an effect of the rotation of the earth.

Precise details of the experiment are lacking, but it would appear that the beam of the balance was adjusted so that its centre of mass lay upon its horizontal axis of swing, and that the latter was compelled to revolve in its own horizontal plane with a definite angular velocity. It was observed that oscillations were set up the amplitude of which was limited by the damping resistance of the air.

In the article referred to Prof. Boys gave reasons for thinking that the expression given by Eötvös for the amplitude in terms of the physical constants involved was incorrect, and offered another in its stead. I think, however, that there is little doubt that when the experiment is performed in the way which the published accounts indicate the Eötvös formula is right.

Suppose we take as a system of moving axes of reference principal axes of inertia of the beam of which one coincides with the axis about which the beam swings. Let this be the axis of x, and let it make at the time t an angle ωt with a horizontal line drawn to the west, ω being the angular velocity with which the balance revolves. Let the axis of z make an angle ψ with the vertical; then if Ω is the angular velocity of the earth and λ the latitude of the place of experiment, the angular velocities of the axes are

$$\begin{aligned}
\omega_x &= -\Omega \cos\lambda \sin\omega t + \psi. \\
\omega_y &= -\Omega \cos\lambda \cos\omega t \cos\psi + (\Omega \sin\lambda + \omega) \sin\psi. \\
\omega_z &= \Omega \cos\lambda \cos\omega t \sin\psi + (\Omega \sin\lambda + \omega) \cos\psi.
\end{aligned}$$

If A, B, C are the corresponding moments of inertia, and if we represent the resistance of the air by a couple $-N\psi$, we obtain as the equation for small oscillations of the beam about the horizontal

$$A\ddot{\psi} + N\dot{\psi} + (C - B)\omega^2\psi = (A + C - B)\omega\Omega \cos\lambda \cos\omega t.$$

Assuming the beam to be essentially a long, narrow rod, we may put $B=0$ and $C=A$, and with these simplifications we obtain for ψ the expression

$$2A\Omega \cos\lambda \sin\omega t/N.$$

It is seen at once that the expression is essentially the same as that obtained by Eötvös. The terms representing the free oscillations are omitted, as such oscillations will ultimately be damped out by the resistance of the air. In simplifying the equation, the assumption is made that $A\Omega$ is small compared with N. It seems probable that Eötvös used a "small" balance in order to ensure that this condition should be satisfied, for if we compare similar balances $N \propto L^4$ and $A \propto L^5$, where L denotes a linear dimension. If this condition were not satisfied, the character of the motion would be considerably modified.

J. B. DALE.

King's College, June 12.

I HAVE to thank Prof. Dale for pointing out the very serious error that I made when I assumed that the variation of centrifugal force was the only action operative in the Eötvös revolving balance, and I must apologise to Mr. Korda for having treated his account of this beautiful device as inaccurate as well as inadequate.

C. V. BOYS.

The Discovery of the New Star in Aquila.

CAPT. E. V. PIPER, of Fowey, Cornwall, was observing meteors on the night of June 7–8 between 12h. 30m. and 13h. 0m. G.M.T., and saw seven. He recorded a 1st mag. one at 12h. 45m., which shot to just below Altair from a little above a bright star to the west which he could not identify. This star had a green tinge, and was equal in lustre to Altair. Though he knew the constellations and all the brighter stars in this region very well, he was struck with the strange object to the right of Altair. Mrs. Piper, who came out on the balcony from which Capt. Piper was observing, also remarked on the green colour and flashing light of the star.

Capt. Piper saw the star again on the evening of June 8 at 9.18 p.m., and was puzzled at its appearance, but considered that it meant some phenomenon already well known to astronomers. On Monday, June 10, he saw an announcement in the newspapers that a new star had been discovered in the position where the strange object had attracted his notice on the morning of June 8.

The whole of the facts and circumstances of the observation have been investigated by Mr. T. H. L. Hony, of Fowey, who is an amateur astronomer, and is convinced of the perfect trustworthiness of the details.

Capt. Piper has occasionally sent me accounts of meteors, and they have been very good. It seems to me that the difficult feature to understand in connection with the observation of the star on the morning of June 8 is that it was as bright as on the following night. We know that these objects rise very rapidly to a maximum. The Perseid nova of February, 1901, increased from less than 12th magnitude on February 20 to 2·7 magnitude on February 21 after an interval of twenty-eight hours!

W. F. DENNING.

Bristol, June 18.

The Food of the Rook.

THERE is still so much difference of opinion among those who, like the writer of the note in NATURE of June 6 (p. 271), have examined the contents of the stomachs of rooks as to the economic position of these birds that the time has come when a committee of scientific men should be invited to sift the extensive evidence that is now available and issue a report.

I am in agreement with Dr. Long that the method of balancing one grain of corn as beneficial against one insect as injurious is most fallacious. The corn found in the stomachs of rooks in the summer months (May and June), and a great deal of the corn gathered by the rooks on the roadside or after gleaning in the autumn, would never be garnered by the farmer, but an injurious insect that escapes the visitations of the birds is always capable of considerable mischief.